JUN 06 2000

Oregon

John A. Kitzhaber, M.D., Governor

Department of Environmental Quality
811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696
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June 5, 2000

David C. Beach
U.S. Army Corps of Engineers
ATTN: Operations Division
P.O. Box 2946
Portland, OR 97208-2946

Dear Mr. Beach:

The Department of Environmental Quality (DEQ) has reviewed the U.S. Army Corps of Engineers (USACE, Corps) request for water quality certification, contained in a Corps Public Notice issued February 11, 2000, Reference # NWPOP-CLA-F00-003. The Corps Portland District proposes to maintain the Columbia River Navigation Channel between River Mile (RM) 3.0 and RM 106.5. The Federally authorized channel in this reach is 40 feet deep and 600 feet wide. Maintenance will be accomplished by periodically dredging restricting shoals consisting of naturally occurring sedimentary material. Up to 5 feet of overdepth dredging and 100 feet of overwidth dredging may occur in selected high volume shoal areas.

Revision 1 to the Public Notice was circulated on April 28, 2000, and clarified aspects related to flow lane disposal, ocean disposal, sediment quality, and the Caspian Tern salmonid predation problem.

The location of the Federal navigation channel falls variously within the states of Oregon and Washington. The channel passes through Clatsop, Columbia, and Multnomah Counties, in Oregon, and Pacific, Wahkiakum, Cowlitz and Clark Counties in Washington. Dredging is to be accomplished by hopper, clamshell or pipeline suction dredges. Dredged materials may be disposed of in-water, at shoreline or beach nourishment sites, at upland sites, or possibly at as yet to be designated ocean dredged material disposal sites (ODMDS). Other than the ODMDS, the disposal areas and techniques proposed for this 5-year cycle of dredging and disposal have been evaluated, approved, and used in the past. Flow lane disposal of dredged material will take place only at depths between 45 and 65 feet in locations within or adjacent to the Federal navigation channel with the following exceptions: depths over 65 feet will be used between RM 30 and 33 (OR); between RM 54 and 56.3 (OR); and between RM 72.2 and 73.2 (WA). All dredging activities will be done in accordance with the approved Dredged Material Management Plan for the Columbia and Lower Willamette River Federal Navigation Channel (DMMP).

The material proposed for dredging is classified as recently deposited, poorly graded, medium and fine sands. Sediment samples have been analyzed for physical and chemical properties and the material has been determined under criteria established in the Dredged Material Evaluation Framework, Lower Columbia River Management Area to be suitable for unconfined in-water disposal. The U.S. Environmental Protection Agency (USEPA) reviewed and concurred with this determination in a letter to the USACE dated March 14, 2000. Maintenance dredging is expected to occur on an annual basis for the five-year life of the permit and will generate approximately 4-6 million cubic yards of sediments per year.

The National Marine Fisheries Service (NMFS) issued a Biological Opinion (BO) on the USACE Columbia River Operation and Maintenance Program on September 15, 1999, including specific non-discretionary terms and conditions. All conditions in this Section 401 Water Quality Certificate are consistent with the binding terms and conditions of the BO.

The USACE and the DEQ held a Joint Public Hearing in Astoria, Oregon on April 4, 2000 at the request of environmental groups and the general public. The hearing gave the public an opportunity to voice their concerns and have questions answered by a panel including Washington Department of Ecology, Oregon Department of Environmental Quality and the Channels and Harbors Section of the Corps. Concerns expressed by the public through both the Public Hearing process and the submission of written comments included the following: 1) timing of maintenance dredging to be more sensitive to fish migration; 2) contaminant concentration, redistribution, and migration; 3) lack of mitigation for dredging effects; 4) more beneficial use of dredged materials; 5) salmonid predation from islands or structures associated with dredged material disposal areas; and, 6) disposal options including reducing or entirely eliminating flow lane disposal. The Corps is currently funding or conducting studies to address these concerns. The Statement of Findings prepared by the Corps concluded that "In balance, adverse effects are acceptable, beneficial effects are specifically identifiable, and the project, as conditioned, is in the public interest."

No additional substantive water quality issues resulted from the public hearing, and based on information provided by the applicant, DEQ does not anticipate any long-term violations of the Clean Water Act and State Water Quality standards, particularly 340-41-026 (1)(a), Antidegradation Policy for Surface Waters, from this project, provided the conditions which follow are strictly adhered to.

This reach of the Columbia River is classified as Water Quality Limited under Section 303(d) of the Federal Clean Water Act for the following parameters: Bacteria [Fecal Coliform (Fall/Winter/Spring)]; Dissolved Oxygen (Summer); pH (Summer); Temperature (Summer); Total Dissolved Gas (Year Round); and Toxics [Arsenic (Year Round), Tissue-Pesticides, PCB].

The Lower Columbia River also supports salmonid rearing.

CONDITIONS

1) **Fish protection/ODFW timing :**

a) Unless otherwise specified, all in-water work shall occur within the Oregon Department of Fish and Wildlife's (ODFW) preferred time window, described in: *Oregon Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources.*

b) No obstruction or impediment to fish passage is to occur. No negative impacts to the fishery are allowed to occur.

2) **Turbidity:** All dredging and disposal of sediments shall be conducted so as to minimize siltation and turbidity in the Columbia River. Turbidity shall not exceed 10% above natural stream turbidities, except where allowed by OAR 340-41-0205(2)(c). This rule states, in part, that: limited duration activities necessary to accommodate essential dredging, and which cause the turbidity standard to be exceeded may be authorized provided all practical turbidity control techniques have been applied and a Section 401 water quality certificate has been granted.

3) Upland disposal sites shall be large enough to accommodate the quantity of material and water to be placed there in order to allow adequate settling. Return water turbidity from any constructed cell or upland site shall not exceed 10% above the background level in the Columbia River. If the disposal cells contain weirs, they shall be maintained at a height that allows no more than three inches of overflow water from the cell.

   Turbidity shall be measured (or visually assessed) and recorded at a minimum, every two hours, during periods of active disposal and dewatering. The designated person attending the monitoring equipment shall be responsible for notifying the project foreman of any exceedance of the turbidity standard. Turbidity shall be monitored during in-water work. Monitoring points shall be 100 feet upstream (representative background), 100 feet downstream, and at the discharge point. A turbidimeter is recommended, however, visual gauging of turbidity is acceptable. Visible project-related turbidity at 100 feet below the discharge point is considered to be an exceedance of the standard. If a 10 % exceedance of the background level occurs at 100 feet below the project site, modify the activity causing the problem and continue to monitor every two hours. If exceedances occur with two consecutive measurements (two hours apart) stop the activity causing the turbidity until the problem is resolved.

   For information on turbidity monitoring, contact Larry Caton (229-5983). The turbidity standard can be exceeded for a maximum of 2 hours (limited duration) provided all practicable erosion control measures have been implemented as applicable, including, but not limited to:

   a) Adequate settling time in the upland settling basin.

   b) Use filter bags, sediment fences, silt curtains, leave strips or berms, or other measures sufficient to prevent movement of spoils. These measures shall be inspected and maintained daily to ensure their proper function.

4) In order to help control turbidity, hopper and pipeline dredges shall be operated with the intake head at or below the surface of the sediments being removed during all periods of operation. Reverse purging of the intake line shall be kept to an absolute minimum. Should purging be necessary, the intake line shall be raised no more than 3 feet from the bottom. If water is pumped through the dragheads to flush out the hopper dredge bins, the heads shall be at least 20 feet below the water surface.

5) **Dredging-** Dredging operations shall be conducted employing Best Management Practices (BMP's) which minimize disturbance or siltation to adjacent habitat or waters. If a bucket dredge of any type, including but not limited to grab or clamshell, dipper, dragline, or backhoe bucket, is used, all digging passes of the bucket shall be completed without any

material, once in the bucket, being returned to the wetted area. No dumping of partial or full buckets of material back into the project area will be allowed. No dredging of holes or sumps below maximum depth and subsequent redistribution of sediment by dredging, dragging, or other means will be allowed. All large man-made debris shall be removed from dredged sediments prior to flow lane disposal and transported to an appropriate disposal site.

6) If the dredging operation causes a water quality problem which results in distressed or dying fish, the operator shall immediately: cease operations; take appropriate corrective measures to prevent further environmental damage; collect fish specimens and water samples; and notify DEQ and the Oregon Department of Fish and Wildlife (ODFW).

7) Petroleum products, chemicals, or other deleterious waste materials shall not be allowed to enter waters of the State.

8) Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained in order to prevent spills into State waters.

9) In the event of a discharge of oil, fuel, or other chemicals into State waters, or onto land with a potential to enter State waters, containment and cleanup shall begin immediately and be completed as soon as possible.

10) Spills into State waters, or onto land with a potential to enter State waters, shall be reported immediately to the DEQ Spill Response Team [Northwest Region/Portland].

11) **Dredging by Others**- Other individuals are allowed, at the discretion of the Portland District, Corps of Engineers, to dredge commercial grade sediments from the navigation channel. In Oregon waters, all such work by others is subject to the conditions contained in this certification and also must comply with leasing and royalty requirements of the Oregon Division of State Lands.

12) This water quality certification (WQC) shall remain in effect for five years from the issuance date. DEQ reserves the option to modify, amend or revoke this WQC, as necessary, in the event new information indicates that the dredging/disposal activities are having a significant adverse impact on State water quality or critical fish resources.

13) A copy of this WQC letter shall be kept on the job site and readily available for reference by the Corps of Engineers, DEQ personnel, the contractor, and other appropriate state and local government inspectors.

14) This WQC is invalid if the project is operated in a manner not consistent with the project description contained in the Public Notice for certification. Failure to comply with the conditions of this certification may subject the applicant to civil penalties or other administrative or judicial actions.

15) DEQ requires site access on day of request.

16) If you are dissatisfied with the conditions contained in this certification, you may request a hearing before the Environmental Quality Commission. Such request must be made in writing to the Director of DEQ within 20 days of the mailing of this certification. You may

also request written information about alternative dispute resolution services under Oregon Revised Statute 183.502, including mediation or any other collaborative problem-solving process.

The DEQ hereby certifies that this project complies with the Clean Water Act and state water quality standards, if the above conditions are made a part of the Federal permit.

The applicant shall notify the DEQ of any change in the ownership, scope, or construction methods of the project subsequent to certification. If you have any questions, please contact Tom Melville at (503) 229-5845.

Sincerely,

Michael T. Llewelyn
Administrator
Water Quality Division

T:TM.Certbeac.F00-003

cc: John Malek (EPA)
Ben Meyer (NMFS)
Diana Hwang (USFWS)
Eldon Hout (DLCD)
Larry Potter, DSL
Rick Vining (WADOE)

STATE OF WASHINGTON
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CERTIFIED MAIL

June 5, 2000

Mr. Jon Gornick
Portland District Corps of Engineers
Waterways Maintenance Section
P.O. Box 2946
Portland, OR 97208-2946

RE: Section 401 Certification and Water Quality Modification
Public Notice No. NWPOP-CLA-F00-003
Maintenance Dredging of lower Columbia River (RM 3 to 106.5)

Dear Mr. Gornick:

The above referenced public notice has been reviewed in accordance with all pertinent rules and regulations. The activity proposed in the public notice is the continuation of maintenance dredging of the mainstem navigation channel of the lower Columbia River by the Corps of Engineers and the disposal of the resulting dredged material. The navigation channel falls variously within the state boundaries of Washington and Oregon. Dredging is to be done by hopper, pipeline or clamshell dredges. Dredged material is to be disposed of at in-water, shoreline, or upland sites located in the two states. Approximately 4-6 million cubic yards of sediment is to be dredged every year.

On behalf of the State of Washington, the department certifies there is a reasonable assurance the activity proposed in the public notice will be conducted in a manner that will not violate applicable State water quality standards. This water quality certification, with modification, is subject to the conditions contained in the enclosed Order and may be appealed by following the procedures described in the Order. If you have any questions about this certification or the Order, please call Rick Vining at (360) 407-6944.

Sincerely,

Paula Ehlers, Section Manager
Environmental Coordination Section
Shorelands and Environmental Assistance Program
Department of Ecology

cc:			
	WDFW	EPA	NW Environmental Advocates
	WDNR	NMFS	CDOG
	ODEQ	USFWS	Pacific County
	CREST	CRCFA	Port of Ilwaco

DEPARTMENT OF ECOLOGY

In the Matter of Granting a Water Quality Certification/Modification to: Portland District Corps of Engineers **In Accordance with 33 U.S.C. 1341 [FWPCA § 401], RCW 90.48.260, and WAC 173-201A**	))))))	**ORDER No. NWPOP-CLA-F00-003** Maintenance dredging of lower Columbia River navigation channel w/ disposal at flow lane, near-shore or upland sites.

TO: Mr. Jon Gornick
Portland District

On February 11, 2000, the Portland District Corps of Engineers submitted a request for water quality certification from the States of Washington for the above-referenced project pursuant to the provisions of 33 U.S.C. 1341 (FWPCA § 401). The request for certification was made available for public review and comment by inclusion in Corps Public Notice No. NWPOP-CLA-F00-003. A revision to the public notice was circulated on April 28, 2000 clarifying aspects of the project related to flow lane disposal, ocean disposal, sediment quality and the Caspian Tern /salmon predation problem.

I. Project Description. The proposed project involves the annual maintenance dredging of the lower Columbia River navigation channel from river mile (RM) 3.0 at the mouth to RM 106.5 at Vancouver, WA. Maintenance of the lower Willamette River channel is not included in this certification as it is noted as an "Other Navigation Project" and is to be "coordinated separately" (page 3 of the public notice).

An average volume of 4 to 6 million cubic yards of sediment is dredged every year from shoals that reoccur at numerous locations in the mainstem navigation channel. The channel is to be dredged to the authorized depth of -40 feet CRD [plus up to 5 feet of over-depth dredging] and authorized width of 600 feet [plus up to 100 feet of over-width dredging in high volume shoal areas]. Dredging is to be done by either hopper, pipeline or clamshell dredge depending upon the availability of disposal sites and timing restrictions.

Dredged material is to be disposed of at one or a combination of the following sites: [1] in-water sites, such as re-handling and flow-lane sites located in or near the mainstem reaches of the river; [2] shoreline or beach nourishment sites and [3] upland sites. The use of ocean disposal sites (designated by EPA) to dispose of sediments dredged in the estuarine reach (RM 3 – 28) is described in the public notice as a possibility depending upon the capacity restraints placed upon existing estuary disposal sites. This certification does not authorize such disposal at the as yet to be designated Deepwater site, but will be reconsidered upon separate request. The use of Expanded Site E (a dispersive shallow water ocean site) is authorized for disposal of estuarine channel sediments provided the sediments meet applicable screening guidelines and are of a grain size compatible to a dispersive disposal site.

II. Project Evaluation. In exercising its authority under 33 U.S.C. 1341 and RCW 90.48.260, the department has evaluated this application pursuant to the following:

1. Conformance with the state water quality standards as provided for in Chapter 173-201A WAC authorized by 33 U.S.C. 1313 and by Chapter 90.48 RCW, and with other appropriate requirements of state law, and

2. Conformance with the provision of using all known, available and reasonable methods to prevent and control pollution of state waters as required by RCW 90.48.010.

The evaluation of the Corps' maintenance dredging program includes the following considerations: Section 303(d) of the Clean Water Act; Sediment Characteristics; and the Letter of Approval from WDFW.

II. (con't) Section 303(d) Listing of lower Columbia River. The lower Columbia River is included in Ecology's latest edition of the CWA Section 303(d) listing, dated March 2, 2000. The lower river is included on the list as a result of water and/or sediment samples or surveys that reported an exceedance of the following parameters: temperature; arsenic; fecal coliform; and a sediment bioassay. With respect to the listing, the department finds there is a reasonable assurance that the Corps' maintenance dredging program will not contribute to an increase of these water quality parameters. This finding is based upon the following factors:

(A) Temperature. Exceedances of the temperature criteria for the lower Columbia River were reported at two locations in 1996 - Skamania and Washougal. The flow regime in the main channel of the lower Columbia River is of such high velocity and volume that dredging operations would not be expected to cause any detectable increase in water temperature over background. Furthermore, the very low levels of organic material found in the sediments, as indicated by an average volatile solids content of less then 1.0% (Siipola, 1997), would not generate any noticeable biochemical oxygen demand and thus, not contribute to an increase in temperature or a decrease in dissolved oxygen.

(B) Arsenic. The inclusion of arsenic on the 303(d) list resulted from the reported analysis of sturgeon tissue obtained from fish taken from the Oregon side of the river. The tissues had levels of arsenic that exceed EPA's criteria for human health consumption. The report does not indicate pathway(s) through which the sturgeon may have accumulated arsenic. However, as noted in USGS Report 95-4294, arsenic is primarily transported in the lower Columbia River in a dissolved form versus in a form associated (bound) with suspended sediments. Furthermore, USGS noted that the origin of dissolved arsenic to the lower river segment appeared to be from sources upriver of Bonneville Dam, such as the discharge of the Yakima River.

There is no reason to believe the maintenance dredging program will contribute to any increase in the arsenic that was detected in sturgeon. Dredging and disposal will cause a temporary resuspension of some sediment, some of which may have arsenic bound to it. However, a review of the most recent survey of sediments from the navigation channel (Siipola, 1997) indicates that the levels of arsenic found in the navigation channel are at or below background values for the lower Columbia River. The background value for sediment-associated arsenic is 9.7 ppm (plus/minus 2.6) (Johnson, 1988). Levels of arsenic in channel sediments were found to average 1.9 ppm with a maximum value of 3.0 ppm. This data set included 23 stations located between river miles 11 to 106.

The arsenic values detected in channel sediments are also considerably below the screening level of 57 ppm adopted by the sediment evaluation guidelines applied to the lower Columbia River (see Section 2 below). The screening level (or SL) is the level at which any detection at or below that level has been found to not cause any unacceptable adverse effects due to toxicity and thus, qualifies the sediment for unconfined inwater disposal.

(C) Fecal Coliform. The exceedance of fecal coliform reported in the 303(d) list is not evaluated in great detail in this section because the origin of the exceedance is from an inspection and analysis of the effluent waters discharged by a paper mill into the lower Columbia River. Thus the industrial discharge was contaminated by excess fecal coliform, not the river per se. In contrast, as noted in USGS Report 95-4294, fecal coliform data collected from 1976-1994 indicate that the lower Columbia River consistently exhibits low levels of fecal coliform. Given this information, and the high current flow and coarse nature of sediments found in the navigation channel, there is no reason to believe that the maintenance dredging program will cause an increase in fecal coliform.

(D) Sediment Bioassay. Similar to the situation presented above, the failure of a sediment bioassay reported in the 303(d) list is not evaluated in great detail in this section. The origin of the failure is related to an inspection of a creosote treating facility and an analysis of sediment directly impacted by stormwater discharges from the facility. In addition, the water body so impacted by the discharge is River Lake, which is a tributary to the lower Columbia River.

II. (con't) Sediment Characteristics. A qualitative assessment of sediments is necessary to determine the suitability of the sediments for the disposal options that result in discharges to waters of the State. The disposal options include flow-lane, beach nourishment and upland disposal (when effluent water from the upland site is discharged back into waters of the State).

The sediments to be dredged from the navigation channel have been determined to be suitable for the above disposal options based upon the results of past, and the most recent, sediment sampling surveys. The most recent sediment survey of the channel was undertaken for the proposed

Deepening Project (Siipola, 1997) and was done in conformance with the sediment evaluation guidelines developed for application to the lower Columbia River, the *Dredged Material Evaluation Framework* dated December 1998.

II. (con't) WDFW - HPA Letter of Approval.

In correspondence dated April 25, 2000 (enclosed), the Department of Fish and Wildlife (WDFW) requested that provisions and recommendations be included in the State's coordinated response to the Corp's maintenance dredging program.

(A) Provisions.

(1) Provisions 1 through 5 are incorporated by reference into this certification. These provisions relate to the operational aspects of dredging that can be managed to minimize potential water quality effects.

(2) Provision 6 pertains to the protection of a characteristic use of waters of the state (salmon migration) and the potential effects of beach nourishment. This provision is not included as a condition of certification for the following reasons:

(a) Only one beach nourishment location is proposed for continued use in the State of Washington, that being the upstream end of Puget Island, designated as W-46.0 and W-46.3. The placement of clean sandy dredged material at this location is considered highly beneficial in that it will help nourish the downstream/south side of Puget Island, which is now experiencing fairly significant erosion.

(b) There is a critical need to maintain fexibility in the timing of disposal at this beach nourishment location. This reach of the navigation channel, known as the Westport Bar (RM 44.5-48.2), experiences some of the highest volumes of annual shoaling anywhere along the entire navigation channel.

(c) There is no reason to believe that the use of one beach nourishment location, for a period of one to two weeks per year, will have a significant impact on the overall populations of migrating juvenile salmon. The use of the site was not restricted as such by the National Marine Fishery Service (NMFS), the federal agency charged with evaluating the project with respect to ESA-listed salmon. As indicated in their Biological Opinion dated Sept 15, 1999, NMFS found the existing beach nourishment sites to be of low (benthic) density and of little value to juvenile salmon.

(d) As to the potential turbidity caused by beach nourishment, NMFS found that "water quality will not be adversely affected by slight increases in turbidity" and

that "the lack of fine grained material in the channel (sediments) decreases the potential for any toxics to be resuspended as a part of the dredging process".

(3) Provision 7 calls for a restriction of dredging equipment (clamshell only) downstream of the Lewis River confluence between January 1st and June 1st for the purpose of protecting Columbia River smelt. In consultation with WDFW, this provision is hereby revised to the following: *7. To address concerns about dredging and its potential impacts to fishery resources during the timeframe of January 1st to June 1st of any year, the Corps shall establish a procedure to coordinate with and solicit input from WDFW and Ecology prior to the start of dredging during said timefrane.*

B. Recommendations. The recommendations proposed by WDFW in their letter of approval are hereby forwarded to the Corps for their review and consideration. Recommendations 1, 2 and 3 pertain to white sturgeon and smelt. Given the higher degree of concern for these fishery resources, the department reserves the right to modify this certification to address new information to be derived from new studies about these fishery resources.

In view of the foregoing and in accordance with 33 U.S.C. 1341, 90.48.260 RCW and Chapter 173-201A WAC, a combined certification/modification is granted to the Portland District Corps of Engineers subject to the following conditions:

1. Short-term Modification to the Water Quality Criteria.

The maintenance dredging of the lower Columbia River navigation channel may result in the temporary exceedance of certain state water quality criteria or special conditions specified in Chapter 173-201A WAC. Per Section 173-201A-110, the Department may grant a "Short-term Modification " to allow for such exceedances of the criteria on a short-term basis when necessary to accommodate essential activities, respond to emergencies, or to otherwise protect the public interest". The department finds that maintaining the navigation channel is an activity essential for the safe and efficient movement of large commercial vessels to upriver ports. In granting the following modifications, the department finds that supporting information clearly indicates the granting of mixing zones would not have a reasonable potential to: (1) cause a loss of sensitive or important habitat; (2) substantially interfere with the existing or characteristic uses of the lower Columbia River; (3) result in damage to the ecosystem; or (4) adversely affect public health.

(A) The project reach of the lower Columbia river is classified as Class A waters; thus, Class A water quality standards of 173-201A-030(2) apply, except as specifically modified by this order. Temporary dilution zones, or mixing zones, are authorized for dredging and/or disposal to allow for temporary exceedances of certain water quality standards as a result of disturbing in-place sediments. Within the mixing zones, except as noted, water quality criteria are modified as follows:

(1) **Turbidity.** Class A water quality standards for turbidity are waived within the specified mixing zones, provided the turbidity plumes that result do not exceed 15% of the width of the river.

(2) **Dissolved Oxygen.** Class A water quality standards for dissolved oxygen are waived within the specified dilution zones, provided that total dissolved oxygen levels are not be caused to drop below 6.0 mg/L.

(B) **Mixing Zones.** Mixing zones and other applicable conditions are specified below under the separate categories of dredging and disposal included in the subject Public Notice. The mixing zones are considered reasonably sufficient to allow for the temporary impacts of the dredging and/or disposal operations. All other applicable water quality standards shall remain in effect in the mixing zones and all water quality standards are expected to be met outside of the mixing zones.

(C) **Duration of the Modification.** "Modifications" may be issued for indefinite periods of time. For the maintenance dredging of the navigation channel, modifications are granted for the same duration as the water quality certification, that being for a period of five years. However, the intent of a "modification to the standards" as a means to temporarily waive a water quality criteria needs to be elaborated upon given the extended period of approval.

Per WAC 173-201A-110, a modification of a water quality criteria (such as turbidity) within a mixing zone is intended for short-term periods of time, *such as for hours or days rather than weeks or months*. The maintenance of the entire 103-mile navigation channel occurs over a period of 3-4 months every year. In this case, the department finds that the effects of maintenance dredging are short-term in that dredging/disposal occurs at discrete and separate shoal locations (the entire channel does not need annual dredging) and that dredging at each shoal location is completed in a matter of days. However, within the context of this certification, no degradation of water quality will be allowed if such degradation is found to significantly interfere with or become injurious to characteristic water uses or cause long-term harm to the environment of the lower Columbia River.

The modification does not authorize any in-water work during closure periods specified by the Department of Fish and Wildlife. This modification is also granted on condition that all reasonable and appropriate "best management practices" are being undertaken to reduce the impacts that may cause exceedances of the water quality criteria.

2. Dredging.

(A) Dredging operations shall be conducted in a manner that minimizes the disturbance or siltation of adjacent waters and prevents the accidental discharge of petroleum products, chemicals or other toxic or deleterious substance into waters of the State.

(B) Dredging by Others. As provided for in the public notice, other individuals and/or corporations will be allowed to dredge [mine] commercial-grade sediments from the navigation channel at the discretion of the Portland District Corps of Engineers. Such work by others is subject to the conditions contained in this certification and to the leasing and royalty requirements of the Department of Natural Resources.

(C) Clamshell Dredging:

(1) Dilution Zone: 150 feet radially and 600 feet downcurrent from the point of dredging.

(2) Each pass of a clamshell bucket shall be complete with no stockpiling done in the water. Dredged material shall not be stockpiled on a temporary or permanent basis below the ordinary high water line.

(3) Large debris picked up by a clamshell dredge shall be removed from the dredged sediments prior to disposal at a flow lane disposal site. Large debris includes old pilings or sinker logs [longer then three feet or greater than one foot in diameter], tree stumps, and man-made materials such as scrap metals, car bodies, broken concrete or asphalt and the like.

(D) Hopper and Pipeline Dredging:

(1) Dilution Zone for Pipeline Dredging: 150 feet radially from the point of dredging and 300 feet downcurrent.

(2) Dilution Zone for Hopper Dredging with Bin Overflow: 300 feet radially and 900 feet downcurrent from the point of dredging.

(3) Hopper and pipeline dredges shall be operated with the intake at or below the surface of the sediments being removed during all periods of operation. Reverse purging of the intake line shall be held to an absolute minimum. Should purging be necessary, the intake line shall be raised no more than three feet above the bottom.

(4) The dragheads on a hopper dredge shall be lowered to at least 20 feet below the surface of the river if water is pumped through the dragheads to flush out the hopper bins.

3. Dredged Material Disposal.

(A) Flow Lane Disposal:

(1) Mixing Zone [for disposal by hopper, bottom dump scow, or down spout]: 150 feet radially from the point of discharge and 900 feet downcurrent.

(2) Flow lane disposal by a hopper dredge or a bottom dump scow is approved provided the disposal sites are located:

(a) waterward of the minus 20-foot contour, Columbia River Datum (CRD) and

(b) to the greatest extent practicable, flow lane disposal sites shall be selected so that disposal material (i) disperses into or immediately adjacent to the mainstem navigational channel; (ii) is not likely to cause significantly increased shoaling in downstream side channels or to shoreline facilities such as docks, wharfs, vessel slips and marinas; and (iii) is not likely to cause a significant adverse alteration of bottom habitats critical to the life history of white sturgeon.

(3) Use of alternative methods for flow lane disposal, such as a flat-topped barge unloaded by a small earth mover, will be considered by the department but shall require special review and approval under this certification.

(4) Flow lane sites may be used for the disposal of sediments dredged by pipeline provided the dredged material is discharged through a downspout that is lowered at least 20 feet into the water column.

(B) Shoreline Disposal by Pipeline Dredge:

The following conditions pertain to pipeline dredging operations that involve the unconfined or partially confined disposal of dredged material on or immediately adjacent to the shoreline. Historically, this manner of disposal has been used primarily for erosion control, such as to protect property or structures, to nourish actively eroding beaches, and to fill fish stranding sites. Shoreline disposal may also be done to enhance, restore or create various riverine habitat features such as a spit or lagoon.

Beach nourishment is the most common shoreline disposal activity and is done by pumping a slurry of sand and water directly onto an actively eroding beach. The sand settles out on the beach while the turbid water or runoff flows back into the river.

(1) Dilution Zone: 150 feet radially from the point of discharge and 900 feet downcurrent.

(2) Shoreline disposal operations, and particularly beach nourishment, may result in the placement of dredged material waterward of the ordinary high water mark. In such cases, the area waterward of OHW shall be regraded to an approximate slope of 9 feet horizontal to 1 foot vertical or steeper.

(3) Impacts to riparian vegetation at shoreline disposal sites shall be avoided or minimized whenever possible.

(4) Erosion control measures shall be carried out to prevent the wind erosion of dredged material back into the channel.

(5) Natural habitat features of Columbia River shorelines include large woody debris (LWD) such as trees, logs and stumps. Trees and logs are considered to be LWD if longer than 4 feet and greater than 12 inches in diameter. Whenever feasible, LWD shall be removed and set aside prior to the start of a shoreline disposal operation and then relocated on the shoreline or beach after the disposal area is regraded to a 9 to 1 slope or steeper. Consideration should be given to the placement of imported LWD to enhance habitat value and to help slow future erosion of the site.

(C) Upland Disposal by Pipeline Dredge:

The following conditions pertain to pipeline operations that pump dredged material to an upland site or confined disposal facility (CDF). Typically, a CDF consists of the following design features: [1] Earthen dikes that form the perimeter of the facility. [2] A weir structure that provides flow control and retention of the solid fraction of dredged material. [3] An outlet structure that conveys the turbid water fraction of dredged material [effluent] to a single point of discharge. The point of discharge may be a nearby surface water, wetland or bare ground.

(1) **Dilution Zone [for Single-point Effluent Discharge]:** 150 feet radially from the point of discharge and 600 feet downcurrent.

(2) **CDF Design and Operation.** The following "best management practices" pertain to the design and operation of a CDF:

(a) The CDF should be designed to provide the maximum practical degree of solids retention during operation, and for the entire life of the site.

(b) The outfall should be located so as to provide the maximum amount of dilution or dispersion of the effluent and to minimize any potential scour or erosion effects to more sensitive aquatic resources such as small tributaries and sloughs, shallow tide flats, and wetlands.

(c) To the greatest extent practicable, CDF sites shall be stabilized to prevent significant offsite erosion of the dredged material by either water or wind transport.

4. Emergency and/or Contingency Measures.

If dredging/disposal operations are found not to be in compliance with the provisions of this order, or result in conditions causing distressed or dying fish, the operator shall immediately take the following actions:

(A) Cease operations.

(B) Assess the cause of the water quality problem and take appropriate measures to correct the problem and/or prevent further environmental damage.

(C) In the event of finding distressed or dying fish, the operator shall collect fish specimens and water samples in the affected area and, within the first hour of such conditions, make every effort to have the water samples analyzed for dissolved oxygen and total sulfides. The department may require such sampling and analyses before allowing the work to resume.

(D) Notify the Department of Ecology and the Department of Fish and Wildlife of the nature of the problem, any actions taken to correct the problem, and any proposed changes in operations to prevent further problems.

5. Spill Prevention and Control.

(A) Any discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, is prohibited.

(B) Fuel hoses, oil drums, oil or fuel transfer valves and fittings, etc., shall be checked regularly for drips or leaks, and shall be maintained and stored properly to prevent spills into state waters. Proper security shall be maintained to prevent vandalism.

(C) In the event of a discharge of oil, fuel, or chemicals into state waters, or onto land with a potential for entry into state waters, containment and cleanup efforts shall begin immediately and be completed as soon as possible, taking precedence over normal work. Cleanup shall include proper disposal of any spilled substances and used cleanup materials.

(D) Spills into state waters, spills onto land with a potential for entry into state waters, or other significant water quality impacts, shall be reported immediately to the department's Southwest Regional Office at (360) 407-6300 (a 24-hour phone number).

6. Duration of Water Quality Certification (WQC). This WQC shall remain in effect for a period of five years from date of issuance. However, the department reserves the option to reassess the terms of this WQC and amend or revoke, as necessary, in the event that:

(A) new sources of potential contamination are discharged or otherwise stand to significantly affect the quality of sediments dredged from the lower Columbia River navigation channel, or

(B) new information indicates that dredging and/or disposal activities are having a significant adverse impact on water quality or characteristic uses of the lower Columbia River.

7. Notification

The Portland District or their designated contractor shall notify the department at least 14 days prior to the scheduled start of dredging in any year. The Ecology person to contact is Rick Vining at (360) 407-6944.

8. Other Requirements.

(A) Copies of this Order shall be kept on the job site and readily available for reference by the Corps of Engineers, Ecology personnel, the contractor, and other appropriate state and local government inspectors.

(B) The Department of Ecology retains jurisdiction to make modifications hereto through supplemental order, if it appears necessary to protect the public interest during the construction and monitoring of this project.

(C) This certification does not exempt and is provisional upon compliance with other statutes and codes administered by federal, state, and local agencies.

9. Penalties. Failure to comply with this Order may result in the issuance of civil penalties or other actions, whether administrative or judicial, to enforce the terms of this Order.

10. Appeal Process. Any person aggrieved by this Order may obtain review thereof by appeal. The applicant can appeal up to 30 days after receipt of the permit, and all others can appeal up to 30 days from the postmarked date of the permit. The appeal shall be sent to the Washington Pollution Control Hearings Board, PO Box 40903, Olympia WA 98504-0903.

Concurrently, a copy of the appeal shall be sent to the Department of Ecology, Enforcement Section, PO Box 47600, Olympia WA 98504-7600. These procedures are consistent with the provisions of Chapter 43.21B RCW and the rules and regulations adopted thereunder.

Dated 6.7.00 at Lacey, Washington

Paula Ehlers

Paula Ehlers, Section Manager
Environmental Coordination Section
Shorelands and Environmental Assistance Program
Department of Ecology
State of Washington

References:

Johnson (1988) - Screening Survey for Chemical Contaminants and Toxicity in Sediments at Five Columbia River Ports, September 22-24, 1987, Ecology Report 26-00-01, 1988

NMFS (National Marine Fisheries Service) - Biological Opinion on Corps of Engineers' Columbia River Channel Operation and Maintenance Program, September 15, 1999

Siipola (1997) - Technical Reports, Appendix B, Columbia River Sediment Quality, Final Integrated Feasibility Report for Channel Improvements and EIS, August 1999.

USGS Report 95-4294 - Water Quality of the lower Columbia River Basin: Analysis of Current and Historical Water Quality Data through 1994, 1996

State of Washington
DEPARTMENT OF FISH AND WILDLIFE
Region 5 Office: 2108 Southeast Grand Boulevard • Vancouver, Washington 98661 • (360) 696-6211

April 25, 2000

Washington Department of Ecology
ATTENTION: Rick Vining
Post Office Box 47703
Olympia, Washington 98504-7703

Dear Mr. Vining:

SUBJECT: **Public Notice; Maintenance Dredging of the Federally Authorized Navigation Channel, from River Mile 3 through 106.5, Columbia River, Tributary to Pacific Ocean, Pacific, Wahkiakum, Cowlitz, and Clark Counties, Corps Log No. NWPOP-CLA-F00-003, WRIAs 24.0000 through 28.0000**

Washington Department of Fish and Wildlife (WDFW) has reviewed the above-referenced public notice NWPOP-CLA-F00-003 to maintain the Columbia River channel at an authorized depth of -40 feet (with up to 5 foot of allowable overdepth). Dredging will be accomplished using pipeline, hopper and/or clamshell dredges. The work may occur year round, but normally occurs between March 1 and November 30 of any year. Maintenance dredged material between RM 3 and RM 28 has been proposed for disposal at ocean disposal sites E and F.

FISH AND WILDLIFE RESOURCES

The Columbia River supports a variety of fish and wildlife species. It is an important migratory corridor for adult and juvenile anadromous fish such as spring, summer, and fall chinook, coho, chum, sockeye, winter and summer steelhead, as well as Columbia River smelt (eulachon) and sturgeon. Adult salmonids are present in the river throughout the year. Juvenile downstream migration starts as early as March and continues into October. Eulachon adults are present from December through March and the juveniles migrate from February through June. Sturgeon are present in the Columbia River year round. Larval, young-of-year (YOY), and juvenile white sturgeon use the deeper holes as feeding and rearing areas.

Wildlife species which inhabit the river corridor include black-tailed deer, muskrat, nutria, skunk, raccoon, and opossum. Canada goose and a large variety of ducks are found along the shoreline and backwater areas. The bald eagle, red-tailed hawk, and osprey are also present within the proposed dredge and spoil areas.

WDFW requests the following provisions and recommendations be included in the state's coordinated response to this Corps project.

PROVISIONS

1. Dredging operations shall be conducted in a manner that minimizes the disturbance or siltation of adjacent waters.

2. Hopper and pipeline dredges shall be operated with the intake at or below the surface of the sediments being removed during all periods of operation. Reverse purging of the intake line shall be held to an absolute minimum. If purging becomes necessary, the intake line shall be raised no more than three feet above the bottom.

3. The dragheads on a hopper dredge shall be lowered to at least 20 feet below the surface of the river if water is pumped through the dragheads to flush out the hopper bins.

4. Each pass of a clamshell bucket shall be complete with no stockpiling of material in the water. Dredged material shall not be stockpiled on a temporary or permanent basis below the ordinary high water line.

5. If at any time, as a result of dredging activities, fish are observed in distress, a fish kill occurs, or water quality problems (including equipment leaks or spills), operations shall cease and WDFW Habitat Program shall be notified immediately.

6. Disposal in beach nourishment sites, or any other sites landward of -20 feet Columbia River Datum, shall not occur from March 15 through August 15 of any year, for the protection of migrating juvenile salmonids.

7. Dredging in the Columbia River downstream of the mouth of the Lewis River shall be restricted to the use of a clamshell between January 1 and June 1 of any year for the protection of eulachon larva.

RECOMMENDATIONS

To protect fish and wildlife species and their habitat, WDFW recommends the following measures be incorporated into the Water Quality Certification/Modification to mitigate potential impacts to fish and wildlife resources:

1. Reduction or elimination of flowlane disposal in areas deeper than 10 meters to protect critical sturgeon feeding and rearing habitat.

2. Conduct a long term sturgeon monitoring plan that addresses the alteration of critical rearing habitat, disruption of benthic invertebrate production, and disturbance and reintroduction of contaminants into the food chain.

3. Conduct a long term eulachon spawning distribution or larval production/distribution sampling effort to detect changes in spawning distribution.

4. Review disposal options and develop a disposal plan that addresses coastal erosion.

5. Upland disposal sites should be stabilized immediately after disposal. Grass seeding, native vegetation planting, or jute matting may be used to accomplish this.

Thank you for the opportunity to review and comment on this public notice. We appreciate your efforts to preserve, protect, and perpetuate Washington's fish and wildlife resources. Please contact Environmental Specialist Ken Mohoric at (360) 906-6730 if you have any questions regarding these comments.

Sincerely,

Ken Mohoric
Environmental Specialist

KM:O&M2000

cc: Rich Costello, WDFW
Steve Manlow, WDFW
Curt Leigh, WDFW
Gayle Kreitman, WDFW
John DeVore, WDFW
Bob Burkle, WDFW
Ben Meyer, NMFS - Portland
Kathi Larson, USFWS - Portland
Bob Bicknell, WDFW
Eric Holman, WDFW
Carl Dugger, WDFW
Lee Van Tussenbrook, WDFW

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

June 1, 2000

David C. Beach, P.E., P.L.S.
Operations Manager, Channels and Harbors Project
U.S. Army Corps of Engineers, Portland District
ATTN: CENWP-OP-NW
P.O. Box 2946
Portland, Oregon 97208-2946

Re: Washington State Federal Consistency for Maintenance Dredging Columbia River

Dear Mr. Beach:

The Department of Ecology Shorelands and Environmental Assistance Program, as Washington's coastal zone management agency pursuant to the federal Coastal Zone Management Act (CZMA), has completed its review of the Corps of Engineers Columbia River Maintenance Dredging Project.

Upon review of this proposal, Ecology has determined you project is consistent with Washington's Coastal Zone Management Program. Our concurrence is based in part, on your agreement to include the following paragraph in section IV.E. of your Statement of Findings.

The Corps will continue to coordinate with the Washington Department of Ecology to develop, plan and implement a monitoring program within the limits of our authorities. The monitoring program will help determine the benefits of the Corps Columbia River Navigation project on sediment availability and movement with particular emphasis on the entrance to the Columbia River and nearby coast.

If you have any questions regarding this letter or the above conditions please contact Linda Rankin our program's federal consistency specialist at (360) 407-6527

Sincerely,

Gordon White

Gordon White, Program Manager
Shorelands and Environmental Assistance Program

Cc: Mike DeSimone, Pacific County
Wahkiakum County Commissioners
Dale Beasley, CRCFA
Mack Funk, Port of Ilwaco
Peter Huhtala, CDOG
Matt Van Ess, CREST
Kathy Taylor, CREST
Jon Westerholm